REPORT NO. 8

Cotton Fiber and Processing Test Results

CROP of 1977

Agricultural Marketing Service
U.S. DEPARTMENT OF AGRICULTURE
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COTTON FIBER AND PROCESSING TEST RESULTS, CROP OF 1977

Discussion of Test Results

Southwestern short staple cottons tested through December 23 are longer, more uniform and finer than a year ago, according to the Cotton Division, Agricultural Marketing Service, USDA. Fiber strength is stronger at both zero and 1/8" gage tests. Picker and card waste is lower. Yarns spun from these samples are stronger. Appearance grades are slightly lower. The average spinning potential yarn number is much higher than it was at the same time last season.

Average results for all medium staple cottons tested show fibers to be longer, more uniform and coarser than a year earlier. Shirley Analyzer nonlint content is higher, but picker and card waste is lower. Yarns spun from these samples are weaker and have lower appearance grades. Yarn imperfections are higher.

Medium staple samples tested from the Southeast show about the same fiber characteristics as a year ago. Picker and card waste is lower. Yarns spun from these samples show weaker yarn strength than last season. Appearance grades are lower. The spinning potential is lower.

South Central medium samples tested are longer, more uniform and coarser than a year ago. Fiber strength is weaker at zero gage strength tests. Shirley Analyzer nonlint content is higher, but picker and card waste is lower. Yarns spun from these samples are weaker and have lower appearance grades. Yarn imperfections are higher.

Southwestern medium staple samples tested to date are longer, more uniform and stronger at zero gage than a year ago. Picker and card waste is lower. Yarns spun from these samples are weaker and have lower appearance grades. Yarn imperfections are lower.

Medium staple samples tested from the West are slightly shorter, more uniform and stronger than last season. Shirley Analyzer nonlint content is higher, but picker and card waste is lower this season. Yarns spun from these samples have lower yarn appearance grades. Yarn imperfections are higher.

Southeastern area long staple samples are shorter and coarser than a year ago. Both Shirley Analyzer and picker and card waste are higher than a year ago. Yarns spun from these samples are weaker. Yarn imperfections are fewer. The average spinning potential is lower.

South Central long staple samples tested are longer, more uniform and coarser than a year ago. Both Shirley Analyzer nonlint content and picker and card waste are higher. Yarns spun from these samples are weaker and have higher imperfections than a year earlier. Spinning potential is higher.

Long staple samples tested from the West show fibers to be shorter, less uniform and coarser than a year ago. Shirley Analyzer nonlint content is higher, but picker and card waste is lower. Yarns spun from these samples are weaker. Yarn imperfections are lower. Spinning potential is lower.

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These reports are published bi-weekly during the harvesting season and will be summarized in a comprehensive report at the end of the crop year. A detailed description of the tests shown in this report may be found in the summary report for the previous season.1/ These reports are available on request from the Standardization Section, Cotton Division, Agricultural Marketing Service, U. S. Department of Agriculture, 4841 Summer Avenue, Memphis, TN 38122.

1/ Summary of Cotton Fiber and Processing Test Results, Crop of 1976, USDA, AMS Cotton Division, June 1977.

Table 1.--Cotton: Averages of fiber and processing tests from selected gin points in the United States through December 23, 1977 1/

Staple group Area, and Crop year	Lots tested	Fiber test results						Processing test results				
		Fibrograph		Mike fineness	Fiber strength		S A nonlint	P & C waste	Yarn quality			Spin. Potent.
		2.5% span	50/2.5 unif.		Zero gage	1/8" gage			Skein str.	Appearance	Imperfections	
	No.	Inches	Pct.	Rdg.	Mpsi	G/tex	Pct.	Pct.	Lbs.	Index	No.	Yarn No.
									22s Carded Yarn			
Short Staple:												
Southwest												
1976	36	0.96	45	4.4	85	21	3.3	7.1	87	112	14	38
1977	81	0.99	46	4.2	88	22	3.2	5.4	100	109	13	48
Medium Staple:												
Southeast												
1976	45	1.08	45	4.6	85	23	3.1	6.4	106	98	20	56
1977	36	1.08	45	4.7	86	22	3.2	6.1	96	92	21	50
South Central												
1976	119	1.08	44	4.2	88	23	2.7	6.3	108	99	17	56
1977	123	1.11	45	4.6	86	23	3.5	6.0	104	95	22	57
Southwest												
1976	31	1.06	45	4.1	82	22	3.3	6.5	104	96	22	56
1977	47	1.08	46	4.2	86	22	3.2	5.7	100	90	19	54
West												
1976	56	1.12	45	4.2	90	25	2.2	5.7	120	90	19	67
1977	81	1.11	46	4.3	94	26	2.6	5.3	119	86	21	68
U.S. Average												
1976	251	1.08	45	4.2	87	24	2.7	6.2	110	96	19	58
1977	287	1.10	46	4.5	88	23	3.2	5.8	106	91	21	59
Significant difference 2/		0.02	2	0.2	2	1	0.5	0.5	4(22s)	5	2	3

1/ Based on a limited number of samples of modal quality

2/ Minimum differences considered to be significant for comparisons in this table.

Table 1.--Cotton: Averages of fiber and processing tests from selected gin points in the United States through December 23, 1977 1/ (Continued)

Staple group, Area, and Crop year	Lots	Fiber Test Results						Processing Test Results								
		Length		Mike	Strength		SA Non-lint	P&C Waste	Comber Waste	Yarn Quality						SPY
		Span	Unif		Zero gage	1/8" gage				Strength		Appearance		Imprfctns		
										carded	combed	carded	combed	card	comb	
	No.	In.	Pct.	Rdg.	Mpsi	G/tx	Pct.	Pct.	Pct.	Lbs.	Lbs.	Indx	Indx	No.	No.	No.
										22s Carded & Combed Yarn						
Long Staple:																
Southeast																
1976	11	1.15	45	4.3	87	25	3.1	6.7	15.8	116	137	103	115	21	9	67
1977	12	1.13	45	4.8	88	23	3.5	7.1	*	99	*	102	*	18	*	58
South Central																
1976	3	1.12	42	3.7	91	26	3.4	6.8	20.3	109	137	97	103	13	10	57
1977	3	1.16	45	4.5	92	24	4.3	7.2	*	106	*	97	*	24	*	63
West																
1976	1	1.20	48	3.8	89	26	2.9	6.4	11.8	147	162	90	100	30	12	103
1977	6	1.18	47	4.1	92	27	3.2	6.0	*	130	*	92	*	24	*	89
Significant Difference 2/		0.02	2	0.2	2	1	0.5	0.5	0.5	4(22s)	4(22s) 2(50s)	5	5	2	2	3

1/ Based on a limited number of samples of modal quality.
2/ Minimum differences considered to be significant for comparisons in this table.
* Combed data not available.

Table 2 --Cotton, American upland short staple: Quality characteristics by production areas, crop of 1977

Production Area, Classification & Sample Number			Fiber Test Results									Processing Test Results - Carded Yarns								
			Digital Fibrograph		Mike	Fiber Strength		Elon-gat'n 1/8"	S.A. Non-lint	Color Raw Stock		P & C	Strength		Elongation		Appearance Index		Imprfect'ns		Spin. Potential
No	Grade / Name & Code	Stple	2.5% span	Unif		Zero Gage	1/8" Gage			Gra	Yel	Waste	8s or 74 tx	22s or 27 tx	8s or 74 tx	22s or 27 tx	8s or 74 tx	22sor 27 tx	8s or 74 tx	22sor 27 tx	
		32s	In	Pct	Rdg	Mpsi	G/tex	Pct	Pct	No	No	Pct	Lbs	Lbs	Pct	Pct	No	No	No	No	No
SOUTHWEST AREA																					
NORTHWEST TEXAS																					
	AMHERST						PAYMASTER 18						70 PERCENT								
2	MID	31	0.94	48	5.3	83	21	6.6	1.7	0	3	4.5	286	91	7.8	6.1	120	110	18	11	39
3	MID	31	0.98	45	4.5	89	22	7.1	2.0	1	3	4.7	294	98	7.5	5.7	120	110	19	10	47
	NEWCASTLE						LANKART 57						95 PERCENT								
3	MID LT SP	32	0.97	45	4.1	86	20	7.2	2.7	2	3	4.8	285	91	7.0	5.8	120	100	26	15	42
	PADUCAH						LANKART 611						70 PERCENT								
2	MID	31	1.02	47	4.5	86	22	7.1	2.7	1	4	4.6	299	102	7.8	6.5	120	110	20	10	37
3	MID LT SP	32	1.01	46	4.5	88	22	7.1	2.9	1	3	4.6 1/	312	101	7.5	6.0	120	100	21	12	58
	PETERSBURG						PAYMASTER 303						90 PERCENT								
4	MID LT SP	32	1.02	43	3.8	81	21	7.0	2.8	1	3	5.6	293	97	7.5	6.2	120	110	21	12	49
	RALLS						PAYMASTER 303						75 PERCENT								
3	MID LT SP	32	1.05	43	3.3	83	22	7.1	3.1	0	3	4.9 1/	302	102	8.2	6.6	120	100	30	18	58
	SNYDER						WESTERN SP44						85 PERCENT								
3	MID	31	0.98	44	4.0	88	21	6.2	2.7	0	3	4.4 1/	294	99	7.3	5.8	120	100	28	16	46

1/ Cotton stuck to processing rolls

Table 3 --Cotton, American upland medium staple: Quality characteristics by production areas, crop of 1977

Production Area, Classification & Sample Number			Fiber Test Results									Processing Test Results - Carded Yarns								
			Digital Fibrograph			Fiber Strength		Elongat'n 1/8"	S.A. Non-Lint	Color Raw Stock		P & C Waste	Strength		Elongation		Appearance Index		Imprfect'ns		Spin. Potential
No	Grade Name & Code	Stple	2.5% span	Unif.	Mike	Zero Gage	1/8" Gage			Gra	Yel		22s or 27 tx	50s or 12 tx	22s or 27 tx	50s or 12 tx	22s or 27 tx	50s or 12 tx	22s or 27 tx	50s or 12 tx	
		32s	In	Pct	Rdg	Mpsi	G/tex	Pct	Pct	No	No	Pct	Lbs	Lbs	Pct	Pct	No	No	No	No	No
SOUTHEAST		AREA																			
ALABAMA							DELTAPINE 16							88 PERCENT							
MONTGOMERY																					
3 LM	51	34	1.16	45	4.1	80	22	8.0	3.4	3	4	5.8	104	35	6.3	4.8	70	50	35	25	60
GEORGIA							DIXIE KING III							100 PERCENT							
BOSTWICK																					
2 SLM SP	43	34	1.03	45	4.4	83	21	6.2	4.5	5	5	7.1	93	29	5.5	4.2	80	70	26	18	46
SOUTHWEST		AREA																			
NORTHWEST TEXAS							COKER 5110							100 PERCENT*							
LUBBOCK																					
4 MID	31	34	1.07	44	4.2	87	22	6.9	2.8	0	3	5.4 1/	105	33	5.9	4.3	80	60	20	15	52
WEST		AREA																			
ARIZONA							DELTAPINE 61							100 PERCENT							
BUCKEYE																					
3 SLM	41	35	1.09	46	4.7	90	24	6.7	3.7	1	3	5.3	109	36	5.9	4.5	90	70	24	17	59
BUCKEYE							STONEVILLE 213							100 PERCENT							
2 SLM	41	34	1.08	46	5.0	87	22	6.1	2.3	1	3	5.1	97	32	5.4	3.8	100	80	12	11	53
MARANA							DELTAPINE 61							100 PERCENT							
2 SLM	41	35	1.11	46	4.5	83	23	8.0	2.8	2	2	4.5	105	34	6.4	4.9	90	60	25	21	61
MARICOPA							DELTAPINE 61							96 PERCENT							
2 SLM	41	34	1.09	44	4.7	86	24	6.7	3.1	2	3	5.3	99	31	5.8	4.4	80	60	25	22	50
MOHAVE VALLEY							STONEVILLE 256							100 PERCENT							
2 MID	31	34	1.10	42	4.4	91	20	5.3	2.3	0	2	6.5	92	28	4.8	3.5	100	60	14	14	50
QUEEN CREEK							DELTAPINE 61							100 PERCENT							
2 MID	31	35	1.13	46	5.1	88	23	6.8	1.7	0	3	5.1	108	34	5.8	4.3	100	80	21	15	55
ROLL							DELTAPINE 61							97 PERCENT							
3 SLM	41	35	1.15	45	4.3	89	23	6.0	3.2	1	2	6.6	102	31	5.4	3.9	80	60	26	23	53

* 100% selected for tests, less than 100% in the area.
1/ Cotton stuck to processing rolls.

Table 3 --Cotton, American upland medium staple: Quality characteristics by production areas, crop of 1977--(Continued)

Production Area, Classification & Sample Number			Fiber Test Results										Processing Test Results - Carded Yarns								
			Digital Fibrograph			Fiber Strength		Elongat'n 1/8"	S.A. Non-Lint	Color Raw Stock		P & C Waste	Strength		Elongation		Appearance Index		Imprfect'ns		Spin. Potential
No	Grade Name & Code	Stple	2.5% span	Unif.	Mike	Zero Gage	1/8" Gage			Gra	Yel		22s or 27 tx	50s or 12 tx	22s or 27 tx	50s or 12 tx	22s or 27 tx	50s or 12 tx	22s or 27 tx	50s or 12 tx	
		32s	In	Pct	Rdg	Mpsi	G/tex	Pct	Pct	No	No	Pct	Lbs	Lbs	Pct	Pct	No	No	No	No	No
WEST AREA--(Continued)																					
CALIFORNIA																					
	BUTTONWILLOW						ACALA SJ-2						100 PERCENT								
3	SLM	41	1.10	43	3.0	93	26	6.0	3.7	1	2	6.4	119	40	5.2	4.5	70	70	25	20	67
	CHOWCHILLA						ACALA SJ-4						100 PERCENT								
3	LM	51	1.11	46	4.0	97	28	6.1	3.9	1	2	6.5	116	39	5.5	4.0	60	60	42	34	65
	COALINGA						ACALA SJ-2						94 PERCENT								
3	SLM	41	1.06	42	3.4	89	26	6.4	3.7	3	3	5.4	134	46	6.3	4.6	70	60	35	22	80
	COALINGA						ACALA SJ-2						100 PERCENT								
3	MID	31	1.10	45	4.0	90	25	6.3	2.6	1	3	4.7	123	44	5.6	4.3	90	80	14	12	76
	FIREBAUGH						ACALA SJ-2						93 PERCENT								
3	MID	31	1.14	47	4.3	95	27	5.9	2.5	0	3	4.9	125	45	5.7	4.6	90	70	17	13	80
	FIVE POINTS						ACALA SJ-2						100 PERCENT								
3	SLM	41	1.15	46	4.2	94	28	6.5	4.0	1	3	5.8	132	47	6.3	4.9	90	80	15	14	82
	LOS BANOS						ACALA SJ-2						96 PERCENT								
3	SLM	41	1.11	45	3.6	91	25	6.4	3.8	1	3	6.1	127	44	4.5	6.1	80	60	30	21	82
	MENDOTA						ACALA SJ-4						76 PERCENT								
3	MID	31	1.10	46	4.4	92	27	6.5	3.8	0	3	5.1	125	45	5.6	4.5	90	70	22	16	74
	RIPLEY						DELTAPINE 61						96 PERCENT								
4	MID	31	1.09	44	4.5	88	24	6.2	2.2	1	3	6.1	95	28	5.2	3.4	90	70	15	12	49
	SAN JOAQUIN						ACALA SJ-2						94 PERCENT								
3	LM	51	1.11	45	2.8	90	26	6.4	3.9	2	2	5.5	120	43	5.7	4.4	70	60	36	24	70
	VISALIA						ACALA SJ-4						98 PERCENT								
3	MID	31	1.10	46	4.3	102	28	6.0	1.5	1	4	4.5	138	49	5.8	4.6	90	80	20	12	83
	WESTMORLAND						DELTAPINE 61						100 PERCENT								
3	MID LT SP	32	1.08	45	5.1	88	22	6.1	2.6	1	3	5.7	94	31	4.9	3.7	90	80	17	16	45